

Exponent®
Engineering & Scientific Consulting

Elizabeth Anderson, Ph.D., Fellow ATS

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Professional Profile

At Exponent, Dr. Anderson served as group vice president for health for 10 years and as chief science officer for 2 years, and she is now a Senior Fellow and principal scientist. Dr. Anderson founded and for 14 years directed the U.S. Environmental Protection Agency's health assessment programs. She is a co-author of the founding publications that formed the basis for risk assessment and risk management, now adopted throughout the world as the basis for public health policy decisions.

Dr. Anderson advised the National Academy of Sciences' Expert Committee that endorsed these approaches and published the defining "Redbook," "Managing Risk in the Federal Government." Before joining Exponent, Dr. Anderson was president and CEO of Clement International and Sciences International, health and environmental consulting firms. She specializes in risk assessment as a basis for addressing the complex problems related to public health and the environment for national and international companies and governments.

Dr. Anderson has worked extensively on international risk assessment issues to address human health and ecological consequences of exposure to environmental toxicants, including for private companies, governments, the World Health Organization, and the Pan American Health Organization. She has been an invited lecturer at major universities in the United States, South America, Europe, and Asia and a lecturer and advisor to institutions in the U.S. and worldwide.

Dr. Anderson is a founder and past-president of the Society for Risk Analysis, regularly serves on peer-review panels for public agencies and institutions and has participated in numerous national and international commissions and organizations concerned with risk-based issues. Dr. Anderson has published widely on issues of health risk assessment. She was also editor-in-chief of the journal Risk Analysis: An International Journal from 1998–2008.

Dr. Anderson is a Fellow of the Academy of Toxicological Sciences and the recipient of numerous awards including the Twentieth Century Distinguished Service Award, Ninth Lukacs Symposium (1999); the Outstanding Service Award, Society for Risk Analysis (1997); the Jerry F. Stara Memorial Award (1994); the SES Bonus for Outstanding Performance (1984); the EPA Gold Medal for Exceptional Service (1978); the Kappa Kappa Gamma National Achievement Award (1974); and a William Author Mattox Merit Scholarship (1962). She also holds a patent and continues her professional activities through memberships in the American Association for the Advancement of Science, the American College of Toxicology, the New York Academy of Sciences, the Society for Risk Analysis, and the Society of Toxicology.

Academic Credentials & Professional Honors

Ph.D., Organic Chemistry, American University, 1970

M.S., Organic Chemistry, University of Virginia, 1964

B.S., Organic Chemistry, College of William and Mary, 1962

Professional Honors

Elizabeth Anderson: Cancer Risk Assessment Pioneer, Risk Profile for Risk Analysis, Vol. 36, No. 4, 2016

Alumni Medallion Award, College of William and Mary, for exceptional accomplishments, 2015

Presidential Recognition Award, Society for Risk Analysis, 2006

The 2006 International Achievement Award, The International Society of Regulatory Toxicology and Pharmacology, 2006

Fellow, Academy of Toxicological Sciences

Editor-in-Chief, Risk Analysis: An International Journal, 1999-2008

Twentieth Century Distinguished Service Award, Ninth Lukacs Symposium, 1999

Outstanding Service Award, Society for Risk Analysis, 1997

Editorial Board, Journal, Health and Ecological Risk Assessment, 1994-present

Jerry F. Stara Memorial Award, 1994

President, Society of Risk /Analysis, 1984

SES Bonus for Outstanding Performance, 1984

Board, Society of Risk Analysis, 1980-1986

Charter Member, Senior Executive Service, U.S. Federal Government

Founding Committee, Society of Risk Analysis, 1978-1980

EPA Gold Medal for Exceptional Service, 1978

Kappa Kappa Gamma National Achievement Award, 1974

William Author Mattox Merit Scholarship, 1962

Professional Affiliations

Academy of Toxicological Sciences

American Association for the Advancement of Science

American College of Toxicology

New York Academy of Sciences

Society for Risk Analysis

Cosmos Club

Society of Toxicology

Executive Women in Government

The International Alliance for Women

Professional Appointments To Expert Committees and Boards

Foundation Board, Virginia Institute of Marine Science, College of William and Mary, 2018- present

U.S. Environmental Protection Agency Alumni Foundation Board, 2017- present

Chair, Publications Committee, Second World Congress on Risk, 2008

Board Member, Toxicology Education Foundation, appointed 2005

Member, Advisory Council for the College of Arts and Sciences, The American University, 2005-2011

Engineering Foundation Board, University of Virginia, 2005-2014

EPA Review Panel, "Future Directions in Homeland Security Research," Washington, DC, April 8, 2004

Member, Division Review Committee, Risk Reduction and Environmental Stewardship, Los Alamos National Laboratory, appointed 2003-2009

Council Member, Virginia Institute of Marine Sciences, College of William and Mary, Williamsburg, VA, 2003-2012

EPA Review Panel, "Stakeholder Workshop on Priority-Setting Criteria for the Integrated Risk Information System Agenda," Arlington, VA, March 4, 2003

Member, Scientific Technical Advisory Council, Federal Commission for Sanitary Risk Protection, Ministry of Health, Mexico, appointed July 2002 (Dr. Anderson is one of two international members.)

National Science Foundation, Workshop on Interdisciplinary Research in Decision and Risk Analysis, Arlington, VA, July 17-18, 2002

Peer Review Committee, "Assessment and Recommendations for the South Carolina Air Toxics Standard," 2000

Peer Review Committee, EPA's EMPACT Metro Area Grants Program, 1999, 2000

Cardinal Bank Board of Directors, 1999-2003.

Member of External Evaluation Group, Los Alamos National Laboratory, 1999-2005.

National Research Council (NRC) and the Commission on Life Sciences, Board on Environmental Studies and Toxicology, NRC Committee on Assessment of Risks from Remediation of PCB-Contaminated Sediments, 1999-2001

Chair, Peer Review of the Office of Risk Assessment and Cost Benefit Analysis, U.S. Department of Agriculture, January 1999

Peer Review Committee, Environmental Monitoring for Public Access and Community Tracking

(EMPACT), National Center for Environmental Research and Quality Assurance, U.S. Environmental Protection Agency, 1999

Blue Ribbon Advisory Board, Steering Committee, Florida Atlantic University Environmental Business Management Program, 1998

Executive Advisory Board of Directors, University of Virginia, School of Engineering and Applied Sciences, Northern Virginia Graduate Degree Program in Systems Engineering, 1998-2005

George Mason University Women's Advisory Board, 1998-2001

Senior Biomedical Research Service (SBRS) Credentials Committee, Food and Drug Administration, 1998

Chair, External Review Committee, U.S. Department of Agriculture, Office of Risk Assessment and Cost-Benefit Analysis, selected by the Society for Risk Analysis, 1998

Board of Scientific Counselors, Committee to Review the National Health and Environmental Effects Research Laboratory, U.S. Environmental Protection Agency, 1998

Peer Review Committee, Exploratory Research Program, Environmental Chemistry, U.S. Environmental Protection Agency, 1997 and 1998

Peer Review Committee, Exploratory Research Program, Environmental Physics, U.S. Environmental Protection Agency, 1997

Department of Defense Peer Review Committee, Strategic Environmental Research and Development Program (SERDP), 1997

Chair, Peer Review Committee, Risk Assessment Guidelines For Combustion Sources, U.S. Environmental Protection Agency, 1996

Peer Review Committee, Center for Risk Assessment, U.S. Environmental Protection Agency, 1996

Engineering Foundation Board, School of Engineering, University of Virginia, 1998-2004

Board of Trustees, Wildfowl Trust of America, 1994-1997

External Advisory Board to the Dean, Center for Risk Management of Engineering Systems, University of Virginia, 1987-1996

Advisory Board of the Wildfowl Trust of North America, 1993

New York Power Commission Advisory Panel to recommend research programs to evaluate risk associated with electric and magnetic fields, 1990

Risk Assessment Review Panel for the State of New Jersey,1988

Member of Panel of Experts, evaluating risk analysis activities of four federal agencies, Program Evaluation and Methodology Division, General Accounting Office for House Committee on Science and Technology, February 1986

Charter Member, Society for Risk Analysis (member of steering committee to establish society, 1980; member of editorial board, Risk Analysis; elected council member, 1981; president, 1984-1985; chair, conferences and workshops committee, 1996-1998

Member, Subcommittee on Risk Analysis, Health and Environmental Research Advisory Committee, Department of Energy, 1985

EPA Representative to the National Cancer Advisory Board, 1982-1985

Member, interagency risk Management council, cabinet council committee; chairman, committee to develop guidelines for assessing reproductive risk, 1884

Member, Principles for Evaluating Health Risks to Progeny Associated with Exposure to Chemicals During Pregnancy, International Program for Chemical Safety (IPCS) committee editorial staff, World Health Organization, Geneva, Switzerland, 1984

Member, interagency regulatory liaison group, work group on risk assessment (work group published the article, scientific bases for identification of potential carcinogens and estimation of risks, JNCI 63:242, 1979); chairman of the work group, 1980

Member, Risk Analysis Liaison Committee, National Academy of Sciences/National Science Foundation (under P.L. 96-44)

Member, National Academy of Sciences/Food and Drug Administration advisory committee on institutional means for assessment of risk to public health (under H.R. 7591)

Patents

Patent 3,738,011: Thickness-scratch testing device, 1973 (with E. Brown).

Publications

Anderson, E.L., Omenn, G.S. and Turnham, P. (2020), Improving Health Risk Assessment as a Basis for Public Health Decisions in the 21st Century. Risk Analysis, 40: 2272-2299. https://doi.org/10.1111/risa.13617.

Anderson EL, Turnham P, Griffin J, Clark C. Consideration of Aerosol Transmission of COVID-19 and Public Health, Risk Analysis 2020; 40(5), 902-907.

Anderson EL, Sheehan P, Kalmes R, Griffin J. Assessment of health risk from historical use of cosmetic talcum powder. Risk Analysis 2016; 37(5).

Greenberg M, Goldstein BD, Anderson EL, Dourson M, Landis W North DW. Whiter Risk Assessment: New Challenges and opportunities a third of a century after the Red Book. Risk Analysis 2015; 35:1959-1968.

Moolgavkar SH, Anderson EL, Chang ET, Lau EC, Turnham P, Hoel DG. A review and critique of U.S. EPA's risk assessments for asbestos. Critical Reviews in Toxicology, 2014; Early Online: 1-24. DOI: 10.3109/10408444.2014.902423.

Welt M, Anderson EL, Menzie C. Chapter 9. Changing Perspectives on Chemical Product Risks. In: Product Liability. ABA Publishing: Chicago, IL, 2011; 187-223.

Anderson EL. The evolution of risk assessment and management at the USEPA: A 40th anniversary reflection. HERA 2010; 16(6): November-December.

Anderson EL, Lowe K, Turnham P. Cancer Risk Assessment: Chemical Carcinogenesis, Hazard Evaluation, and Risk Quantification. John Wiley & Sons, Inc., 2010.

Welt M, Anderson EL. Changing perspectives on chemical product risks. The John Liner Review 2009; 23(2), Fall.

Reiss R, Anderson EL, Cross CE, Hidy G, Hoel D, McClellan R, Moolgavkar S. Evidence of health impacts of sulfate and nitrate-containing particles in ambient air. Inhal Toxicol 2007; 19:419-449.

Pepelko W, Seckar J, Harp PR, Kim JH, Gray DG, Anderson EL. Worker exposure standard for phosphine gas. Risk Anal 2004; 24(5):1201-1213.

Anderson EL, St Hilaire C. The contrast between risk assessment and rules of evidence in the context of international trade disputes: Can the U.S. experience inform the process? Risk Anal 2004; 24(2):449-459.

Anderson EL. The red book in context: Science at the center. Hum Ecol Risk Assess 2003; 9(5):1197-1202.

Reiss R, Anderson EL, Lape JF. A framework for assessing risk to children. Risk Anal 2003; 23:1069-1084.

Anderson EL. Assessing the risk of terrorism: A special collection of perspective articles. Risk Anal 2002; 22(3):401.

Subramaniam RP, Golden SL, Kral P, Turim J, Anderson EL. An exploratory study of variations in exposure to environmental tobacco smoke in the United States. Risk Anal 2001; 2(3):561-574.

Anderson EL, Goldman S, Kral P, Subramaniam R, Turim J. Risk assessment of indoor air pollutants. In: Proc. 4th Princess Chulabhorn International Science Congress: Chemicals in the 21st Century. The Chulabhorn Research Institute, Bangkok, Thailand, November 28-December 2, 1999.

Hattis D, Anderson EL. What should be the implications of uncertainty, variability, and inherent 'biases'/'conservatism' for risk management decision-making? Risk Anal 1999; 19(1).

Moolgavkar SH, Luebeck EG, Anderson EL. Estimation of unit risk for coke oven emissions. Risk Anal 1998; 8(6).

Moolgavkar SH, Luebeck EG, Anderson EL. Air pollution and hospital admissions for respiratory causes in Minneapolis-St. Paul and Birmingham. Epidemiology 1997; 8(4):364-370.

Moolgavkar SH, Luebeck EG, Hall TA, Anderson EL. Air pollution and daily mortality in Philadelphia. Epidemiology 1995; 6(5):476-484.

Moolgavkar SH, Luebeck EG, Hall TA, Anderson EL. Particulate air pollution, sulfur and daily mortality: A reanalysis of the Steubenville data. Colloquium on particulate air pollution and human mortality and morbidity, Irvine, CA. J Inhalat Toxicol 1994; 7:35-44.

Anderson E, Deisler PF, McCallum D, St. Hilaire C, Spitzer H, Strauss H, Wilson JD, Zimmerman R. Key issues in carcinogen risk assessment guidelines. Risk Anal 1993; 14(4).

Chrostowski PC, Hartley S, Foster SA, Anderson EL. Human health risks associated with asbestos abatement. Risk Anal 1991; 2(3).

Anderson EL, Chrostowski PC, Vreeland JL. Risk assessment issues associated with cleaning up inactive hazardous waste sites. In: Integrating Insurance and Risk Management for Hazardous Wastes. Kunreuther H, Gouda MUR (eds), Kluner Academic Publishers: Boston, 1990.

Anderson EL, Chrostowski PC, Vreeland J. Risk assessment for use in groundwater management. Risk Assessment for Groundwater Pollution Control, American Society of Civil Engineers, 1990.

Voytek P, Anver M, Thorslund T, Conley J, Anderson EL. Mechanisms of asbestos carcinogenicity. J Am Coll Toxicol 1990; 9(5):541-550.

Anderson EL. Scientific developments in risk assessment: Legal implications. Columbia J Environ Law 1989; 14(2).

Anderson EL, Chrostowski PC, Foster S. Calculating the risks. Solid Waste & Power 1988; 2(3):40-47.

Anderson EL, Henry CJ. Risk assessment/risk management as a toxic control strategy. World Conference on Large Lakes, Mackinac Island, Michigan. In: Toxic Contamination in Large Lakes, Vol. III, Sources, fate, and controls of toxic contaminants. Schmidtke NW (ed), Lewis Publishers, 1988.

Anderson EL. The risk analysis process. Vol. 3, pp. 3-17. In: Contemporary Issues in Risk Analysis, Carcinogen Risk Assessment. Travis CC (ed), Plenum Press, 1988.

Anderson EL. Perspective on risk assessment of carcinogens. Banbury Report 31: Carcinogen risk assessment: New directions in the qualitative and quantitative aspects. Cold Spring Harbor Laboratory, pp. 281-294, 1988.

Bridgen PJ, Anderson EL. Processes and parameters involved in risk assessment for environmental release of biotechnology products. Annual Meeting of the Society for Risk Analysis, Washington, DC, 1986.

Anderson EL, Albert RE, Kamely D. Risk assessments/risk management for environmental uses of biological agents. Invited paper for Banbury Conference on Genetically Altered Viruses and the Environment, Cold Spring Harbor Laboratory, April 28-May 1, 1985. Published in Banbury Report No. 22, p. 33.

Anderson EL. Quantitative approaches in use in the United States to assess cancer risks. Invited paper, 2nd Conference of the Scientific Group on Methodology for the Safety Evaluation of Chemicals, World Health Organization, Rome, Italy, July 12-16, 1982. Published in Methods for Estimating Risks of Chemical Injury: Human and Nonhuman Biota and Ecosystems, SCOPE 1985; 26:405-436.

Anderson EL, Ehrlich AM. New risk assessment initiatives in EPA. Toxicol Indust Health 1985; 1(4):7-22.

Anderson EL, Chu M, Dourson M, DeRosa C. Methodology for ranking the degree of hazard associated with exposure to carcinogens and other toxic chemicals. In: Proc. Symposium on Chemical Emergency Preparedness, Center for Human Health and Ecology, Pan American Health Organization, Metepec, Mexico, July 23-27, 1984.

Anderson EL. The use of quantitative approaches to assess cancer risks. Carcinogen Assessment Group of the U.S. Environmental Protection Agency. Risk Anal, 1983.

Albert RE, Lewtas J, Nesnow S, Thorslund TW, Anderson EL. A comparative potency method for cancer risk assessment: Application to diesel particulate emissions. Risk Anal, 1983.

Anderson EL. Are society's epidemiological needs being met? Invited paper for the Symposium on Epidemiologic Methods for Occupational and Environmental Health Studies, Washington, DC, December 2-5, 1979. Published in Methods and Issues in Occupational and Environmental Epidemiology, Ann Arbor Science Publishers, 1983.

Anderson EL. Risk assessment and regulatory approaches to carcinogens. Proc. FDA Symposium of Risk/Benefit Decisions and the Public Health, 1978.

Albert RE, Train RE, Anderson EL. Rationale developed by the Environmental Protection Agency for the

assessment of carcinogen risks. J Natl Cancer Inst 1977; 58:1537.

Hawkins WM, Lutz RE, Anderson EL. Tetrasubstituted 2,5-hydrofuranols and their anomerism. J Org Chem 1970; 35:2934.

Hanson RB, Foley PJ, Anderson EL, Aldridge MH. The thermal cleavage of selected aldehyde hydrazonium salts. J Org Chem 1970; 35:1735.

Foley PJ, Anderson EL, Dewey FM. Synthesis of hydrazonium salts. J Chem Engineer, Data 1969; 14:272.

Books

Anderson EL, Albert RE. Risk assessment and indoor air quality. Monograph. A Volume in the Indoor Air Research Series. CRC Lewis Publishers, 1998.

Selected Invited Presentations (Health Risk Assessment and related topics)

Anderson, EL. Improving health risk assessment as a basis for public health decisions in the 21st century, Risk Analysis at 40-Past Progress and Future Promise, Society of Risk Analysis, December 14, 2020.

Anderson, EL. Considerations of Aerosol Transmission of COVID-19 and Implications for Public Health, Society for Risk Analysis, COVID Conversations on Risk, Episode 9, June 11, 2020.

Anderson, EL. Benzene Health Risk Assessment: Understanding and Presenting Scientific Information of Potential Effects, Mode of Action, and Exposure In the Legal Setting, CLM Course, Atlanta, GA. November 5, 2015.

Anderson EL. Risk analysis: Past, present and future. Creating a field that matters. Symposium, presented at the 2013 Annual Meeting of the Society for Risk Analysis, Baltimore, MD, December 10, 2013.

Anderson EL. Life sciences: Managing the risk. Presented at the Poland-Silicon Valley Science and Technology Symposium 2013: "Life Sciences" - The Next Big Thing, San Francisco, CA, November 8, 2013.

Anderson EL, Turnham P, Griffin J. Lessons learned from catastrophic releases to the environment: The role of health risk assessment. Presented at the 7th DFG-NSF Research Conference, Washington, DC, October 4, 2012.

Anderson EL. A journey from the Red Book to Silver: Are we there? The Society of Toxicology Annual Meeting, Washington, DC, March 7, 2011.

Anderson EL. Biomonitoring in public health protection and regulatory decision-making: PFOA as a case study. Presented at the Second World Congress on Risk, Guadalajara, Mexico, June 10, 2008.

Anderson EL. Precautionary measures lead to widely varying international guidance levels for perfluorooctanoic acid (PFOA): The implications of biomonitoring. Presented at the Second World Congress on Risk, Guadalajara, Mexico, June 10, 2008.

Anderson EL. Risk assessment — A historical perspective from policy to public health. Presented at The George Washington University Medical Center, Washington, DC, March 17, 2004.

Turnham P, Anderson EL, Turim J. Dermal absorption of PCBs in non-aqueous carriers. Poster presented at the 2003 Annual Meeting of the Society for Risk Analysis, December 9, 2003.

Anderson EL. The role of risk assessment in resolving world trade disputes. Presented at the World Congress on Risk Assessment, Brussels, Belgium, June 24, 2003.

Anderson EL. Environmental risk assessment: past, current, future. Conference: Theories And Practices in Toxicology and Risk Assessment. Keynote speaker. Sponsored by Tri-Services Toxicology (AFRL/HEST, NHRC/TD, USACEHR), USACHPPM, AFSOR; USEPA, NCEA; ATSER, Division of Toxicology; NIOSH; and FDA, Cincinnati, OH, April 15-18, 2002.

Anderson EL. The contrast between risk assessment and proof of causality, and the fundamental principles of evidence of each. Workshop: Risk Assessment in the Context of Trade Disputes: How Well Can the Scientific Principles Incorporated into the Resolution of Science-Based Trade Disputes? University of Michigan, Ann Arbor, MI, November 1, 2001.

Anderson EL. Risk assessment: The evolution of a science and its use. Yale University, October 30, 2001.

Anderson EL. The challenge of risk assessment. Eco-Informa 2001: Environmental Risk and the Global Community. Argonne National Laboratory, Argonne, IL, May 14, 2001.

Anderson EL. Environmental forensics: Applying effective scientific methods to decrease cost and liability. IBC USA 3rd Annual Executive Forum, Washington, DC, June 26-28, 2000.

Anderson EL. Risk assessment of indoor air pollutants. 4th Princess Chulabhorn International Science Congress: Chemicals in the 21st Century. The Chulabhorn Research Institute, Bangkok, Thailand, November 28-December 2, 1999.

Anderson EL. Toxicology symposium: Agriculture and preservation of water quality: General principles of risk assessment. The Brazilian Society of Toxicology, Sao Paulo, Brazil, March 15-18, 1999.

Anderson EL. Current issues in health risk assessment. International Society for Risk Analysis, Health Risk Assessment: Current issues. 11th Annual Symposium, Williamsburg, VA, October 26-28, 1998.

Anderson EL. Faculty, risk assessment and risk management in environmental law. ALI-ABA Course of Study, October 8-9, 1998.

Anderson EL. Seminar on modern environmental management; risk assessment as a decision making tool, Salvador, Brazil, May 1998.

Anderson EL. The role of uncertainty, variability, and bias in environmental risk management. 8th Engineering Foundation Conference on Risk Based Decision Making in Water Resources, Santa Barbara, CA, October 12-17, 1997.

Anderson EL. Overview of carcinogen and noncarcinogen risk assessment: historical perspective. International Society for Risk Analysis, Health Risk Assessment: Current issues. 10th Annual Symposium, October 6-8, 1997.

Anderson EL. Coming of age — Risk based environmental decision making. The McLain program in environmental studies, Washington College, September 27, 1997.

Anderson EL. Applications of quantitative risk assessment to environmental health. Guest faculty for the 1997 summer institute in risk management in environmental health and protection, New York University, New York, NY, 1997.

Anderson EL. Risk-based analysis. 2nd Annual Environmental Law Forum, Pennsylvania Bar Institute, Harrisburg, PA, March 20, 1997.

Anderson EL. Risk-based decision making in the environmental arena: An overview. 26th Annual Conference on Environmental Law. American Bar Association, Section of Natural Resources, Energy, and Environmental Law, Keystone, CO, March 13-15, 1997.

Anderson EL. Analysis of risks to human health. Washington Operations Research/ Management Science Council, topics in risk analysis, Arlington Campus of George Mason University, Arlington, VA, November 1996.

Anderson EL. Sources of information for uncertainty analyses: case studies, risk assessment issues — The probabilistic approach. University of California Extension, Santa Barbara, CA, March 28, 1996.

Anderson EL. Overview of risk assessment and risk management as a tool for environmental decision making, risk assessment, risk management and risk communication: Expanding the dialogue on environmental management — An international seminar. Sao Paulo, Brazil, November 7-9, 1995.

Anderson EL. Origins of quantitative risk assessment for cancer. International symposium sponsored by the Collegium Ramazzini on preventive strategies for living in a chemical world. Washington, DC, November 4, 1995.

Anderson EL. Risk-based decision making engineering foundation conference. Santa Barbara, CA, October 13, 1995.

Anderson EL. Overview of carcinogen and noncarcinogen risk assessment methods. Society for Risk Analysis annual course on new horizons in risk assessment. Arlington, VA, August 29, 1994.

Anderson EL. 12th institute in risk management in environmental health and protection. Guest faculty. New York University, New York, NY, May 17, 1994.

Anderson EL. Risk assessment in environmental decisions. Environmental Policy Issues Seminar, U.S. Office of Personnel Management, Denver, CO, July 21, 1993.

Anderson EL. Crossroads of humanity series, round table forum. The Medical University of South Carolina, Kiawah Island, SC, July 18-21, 1993.

Anderson EL. Risk characterization, environmental and occupational risk assessment: what it means to the mining industry. The American Mining Congress, Fairfax, VA, July 13, 1993.

Anderson EL. Quantitative risk assessment: Introduction to approaches and methods. Guest faculty. 11th Annual Summer Institute in Risk Management in Environmental Health and Protection, New York University, New York, NY, June 2, 1993.

Anderson EL. Using risk assessment to deal with health issues that would be barriers to sustainable development. Governor's Conference, from Rio to the Capitols: State Strategies for Sustainable Development, Louisville, KY, May 26, 1993.

Anderson EL. Risk assessment guidance at Superfund sites. Chemical Manufacturers Association's Superfund Health Risk Assessment Task Group and Remedy Selection Work Group, Washington, DC, April 13, 1993.

Anderson EL. Quantitative risk assessment II: Models and methods. Guest faculty, 10th Annual Summer institute in Risk Management in Environmental Health and Protection, New York University, New York, NY, June 9, 1992.

Anderson EL. Overview of carcinogen and noncarcinogen risk assessment methods. Society for Risk Analysis Annual Course on New Directions in Risk Assessment, Arlington, VA, April 13, 1992.

Anderson EL. Human health assessment: An overview. Seminar on Social, Economic, Biologic and Legal Basis for Dealing with Environmental Problems, Santiago, Chile, April 1992.

Anderson EL. Cancer risk assessments: An overview. Advanced Research Workshop on Oncogene and Transgenics Correlates of Cancer Risk Assessments, North Atlantic Treaty Organization and U.S. National Science Foundation, Athens, Greece, October 7-11, 1991.

Anderson EL. Quantitative risk assessment (with applications to hazardous waste management). Guest faculty. 9th Annual Summer Institute in Risk Management in Environmental Health and Protection, New York University, June 1991.

Anderson EL. Advances in carcinogen risk assessment with potential lessons for risk assessment for reproductive effects. Symposium on Risk Assessment of Prenatally-Induced Adverse Effects, Berlin, Germany, May 1991.

Anderson EL. New directions in risk assessment. Workshop, Society for Risk Analysis, Bethesda, MD, May 1991.

Anderson EL. Risk assessment approaches and application for regulation of exposure to potential carcinogens. U.S.-Japan cooperative cancer research program seminar on scientific basis for carcinogenic risk assessment of experimental carcinogens, Kauai, HI, March 1991.

Anderson EL. Annual Meeting, American Association for the Advancement of Science. Women in Science, Washington, DC, February 1991.

Anderson EL. Professional conference on industrial hygiene: Risk assessment-future directions and impact on health and environment. Keynote speaker, American Academy of Industrial Hygiene, Vancouver, BC, Canada, October 1990.

Anderson EL. Changing roles. 17th Annual Michigan Industrial Hygiene Society Mini-Conference, Troy, MI, October 1990.

Anderson EL. Session Chairman. HAZ MAT/International '90, Toxic air pollutants: Current Issues, Atlantic City, NJ, June 1990.

Anderson EL. Risks associated with hazardous waste. The Wharton School of the University of Pennsylvania, Philadelphia, PA, May 1990.

Anderson EL. New directions in carcinogen risk assessment. Workshop, Society for Risk Analysis, Bethesda, MD, May 1990.

Anderson EL. Risk assessment and risk management. Keynote speaker, International symposium and the 1st Pan Pacific Cooperative Symposium on Industrialization and Emerging Environmental Health Issues, Kitakyushu, Japan, October 1989.

Anderson EL. International Symposium on Environmental Risk Assessment and Risk Management, Seoul, Korea, October 1989.

Anderson EL. Conference on the price of zero risk and zero waste. The Wharton School of the University of Pennsylvania, Philadelphia, PA, October 1989.

Anderson EL. Blue Ribbon International Symposium on Incineration of Municipal Solid Waste. United States Conference of Mayors, Washington, DC, September 1989.

Anderson EL. Comparison of traditional health risks and risks associated with industrial development. Conference on Environmental Mutagens, Guadalajara, Mexico, July 1989.

Anderson EL. Conducted summer session on science, risk and the law of toxics. Vermont Law School 1989 Summer Session, South Royalton, VT, June 1989.

Anderson EL. 7th Annual Summer Institute in Risk Management in Environmental Health and Protection. Guest faculty, New York University, New York, NY, May 31, 1989.

Anderson EL. Risk assessment of non-ionizing radiation. Electromagnetic Energy Policy Alliance Annual Meeting, Alexandria, VA, April 13, 1989.

Anderson EL. The risk analysis process. Workshop on Carcinogen Risk Assessment, Society for Risk Analysis, Washington, DC, April 3-5, 1989.

Anderson EL, Thorslund TW, Chrostowski PC, Charnley G. Scientific trends in risk assessment research. Association of the Bar of the City of New York, Environmental Law Committee, New York, NY, 1988.

Anderson EL. Conference on Risks of Toxic Substances in Developing Countries: Implications for women and children. Bangkok, Thailand, November 18-20, 1988.

Anderson EL. A defense view of risk assessment. 1988 Fall Annual Meeting. American Bar Association, Section of Litigation, Washington, DC, October 21, 1988.

Anderson EL. The 1988 Washington conference on risk assessment. The Center for Energy and Environmental Management, Alexandria, VA, September 1988.

Anderson EL. Lecture on models for dose-response estimation and low-dose extrapolation. 6th Annual Summer Institute in Risk Management in Environmental Health and Protection, New York University Graduate School of Public Administration, New York, NY, June 1988.

Anderson EL. Seminar on risk assessment of resource recovery plants. 1988 United States Conference of Mayors Annual Conference, Salt Lake City, UT, June 1988.

Anderson EL. Limitations of the risk assessment process: Factors which affect the utility and credibility of the assessment process. Session Chairman. Gordon conferences, Wolfeboro, NY, June 1988.

Anderson EL. Scientific trends in risk assessment research. International symposium on chemical mixtures: Risk assessment and management. Cincinnati, OH, June 1988.

Anderson EL. Participated as rapporteur at the Only One Earth Forum Series. May 1988.

Anderson EL. Managing hazardous materials. Workshop on PCBs, dioxins, and similar materials. Rene Dubos Center for Human Environments, New York, NY, 1988.

Anderson EL. Risk assessment issues associated with cleaning up inactive hazardous waste sites. Conference Info, May 1988.

Anderson EL. Conference on Risk Assessment and Risk Management Strategies for Hazardous Waste Storage and Disposal Problems. Wharton School, University of Pennsylvania, Philadelphia, PA, 1988.

Anderson EL. Seminar on recent trends in health risk assessment: Impact on risk assessment of resource recovery projects. 1988 United States Conference of Mayors Annual Conference, Washington, DC, March 1988.

Anderson EL. The risk analysis process. Workshop on carcinogen risk assessment, Society for Risk Analysis, Washington, DC, March 1988.

Anderson EL. Lecture on scientific trends in risk assessment research. Association of the Bar of the City of New York Seminar on Risk Assessment in Environmental Law, New York, NY, February 1988.

Anderson EL. Risk assessment of suspect carcinogens. Keynote speaker, 2nd U.S.-Japan workshop on risk assessment/risk management, Osaka, Japan, 1987.

Anderson EL. Perspective on risk assessment of carcinogens. Banbury Conference on New Directions in the Qualitative and Quantitative Aspects of Carcinogen Risk Assessment, Cold Springs Harbor, NY, October 1987.

Anderson EL. Lecture on use of risk assessment in the evaluation of the public health impacts of toxic chemicals. Risk analysis in environmental and occupational health with emphasis on carcinogenesis, Harvard School of Public Health, Cambridge, MA, September 1987.

Anderson EL. Lecture on carcinogen risk assessment. New York University, Graduate School of Public Administration, June 1987.

Anderson EL. Lecture on extension of risk assessment methodology to biotechnology applications. NATO Advanced Research Workshop on Risk Analysis Approaches for Environmental Releases of Genetically Engineered Organisms, Rome, Italy, June 1987.

Anderson EL. Panel discussion: Risk assessment and insurability issues. International Symposium on Forecasting, Boston, MA, May 1987.

Anderson EL. Lecture on the risk analysis process. Workshop on Carcinogen Assessment, Society of Risk Analysis, National Academy of Sciences, Washington, DC, April 1987.

Anderson EL. Comments on medical issues in toxic tort cases, risk assessment, cancer, and immunological injuries. ABA Risk Assessment Panel. American Bar Association Section of Natural Resources Law, Chicago, IL, April 1987.

Anderson EL. Roundtable discussion on risk communication and the public's right to know. International Life Sciences Institute, Advisory Panel for Risk Communication, March 1987.

Anderson EL. The role of risk assessment in dealing with environmental pollution problems. Panel member, The Wharton School of the University of Pennsylvania, Philadelphia, PA, March 1987.

Anderson EL. Seminar on risk assessment and risk management. Meeting of Subcommittee on Information Coordination (SIC) of the Committee to Coordinate Environmental Health and Related Programs, National Institutes of Health, January 20, 1987.

Anderson EL. The assessment of air contaminants: The science vs. the art. HazMat West Conference, Long Beach, CA, December 4, 1986.

Thorslund TW, Charnley G, Anderson EL. Innovative use of toxicological data to improve cost-effectiveness of waste cleanup. Presented at Superfund '86: Management of Uncontrolled Hazardous Waste Sites, Washington, DC, December 1-3, 1986.

Anderson EL. Seminar Series on Risk Assessment. The Center for Energy and Environmental Management, Secaucus, NJ, November 19, 1986.

Anderson EL. Research needs to support risk assessment. In retrospect. Annual Meeting of the American College of Toxicology, Philadelphia, PA, November 17, 1986.

Anderson EL. Risk assessment and incineration. Michigan Air Pollution Control Association, Dearborn, MI, November 12, 1986.

Anderson EL. Risk assessment of biologically altered agents. Society for Risk Analysis Annual Conference, Boston, MA, November 10-11, 1986.

Anderson EL. Exposure assessment in a regulatory setting: The significance of protective assumptions in the absence of real data. American Petroleum Institute, Houston, TX, October 30, 1986.

Anderson EL. Workshop on evaluating toxic tort litigation liabilities. Natural Resources Section of the American Bar Association, Arlington, VA, October 29, 1986.

Anderson EL. Workshop on pragmatics of risk assessment. Society of Toxicology, Bethesda, MD, October 28, 1986.

Anderson EL. Seminar series. The Center for Energy and Environmental Management, Dallas, TX, October 27, 1986.

Anderson EL. Risk assessment forum on risk assessment and the workplace: Policy and practice. American Industrial Hygiene Association, George Mason University, Fairfax, VA, October 24, 1986.

Anderson EL. Risk assessment of chemical waste. Hazardous Waste Conference, Pennsylvania Chamber of Commerce, Valley Forge, PA, October 16, 1986.

Anderson EL. Lecture series on risk analysis in environmental health with emphasis on carcinogenesis. Harvard School of Public Health's Continuing Education Program, Boston, MA, September 4, 1986.

Anderson EL. Risk assessment at uncontrolled hazardous waste sites. American Institute of Chemical Engineers Annual Meeting, Boston, MA, August 25, 1986.

Anderson EL. Risk assessment and hazardous waste management: The impact of biomedical and exposure assumptions on meeting acceptable concentration goals. HAZTECH International, Denver, CO, August 14, 1986.

Anderson EL. Recent advances in risk assessment. The 4th Annual Summer Institute in Risk Management in Environmental Health and Protection, New York University Graduate School of Public Administration, New York, NY, June 1986.

Anderson EL. Risk assessment/risk management applied to air toxics. Air Pollution Control Association, Minneapolis, MN, June 22, 1986.

Anderson EL. Risk assessment/risk management training session. Maine Board of Environmental Protection, Portland, ME, June 6, 1986.

Anderson EL. Workshop on research needs in risk analysis. National Research Council, National Academy of Science, Washington, DC, June 2, 1986.

Anderson EL. Conducted course on hazardous chemical management and emergency response. 1st meeting of Caribbean Countries on toxic materials and pesticides, Pan American Health Organization, Bridgetown, Barbados, May 20-23, 1986.

Anderson EL. Chemical risk assessment: Methods and applications. University of California, Los Angeles, Los Angeles, CA, May 2, 1986.

Anderson EL. Cancer risk assessment in a regulatory setting. Annual Meeting of the Operations Research Society of America, Los Angeles, CA, April 14-16, 1986.

Anderson EL. The risk analysis process. Workshop on risk assessment/risk management:

Carcinogenesis. Society for Risk Analysis, National Academy of Science, Washington, DC, April 7-9, 1986.

Anderson EL. Chemical risk assessment: the need for research. DuPont's Haskell Laboratories, Wilmington, DE, March 12, 1986.

Anderson EL. Roundtable discussions on risk communication and the public's right to know. Risk Science Institute, Atlanta, GA, December 15, 1986.

Anderson EL. Risk assessment and risk management of cadmium exposures in the U.S. 5th International Conference on Cadmium, International Lead/Zinc Research Organization, San Francisco, CA, February 4-6, 1986.

Anderson EL. Risk assessment of toxic chemicals: A decade of experience. Speaker for the Federal Water Quality Association and the Water Pollution Control Federation, February 1986.

Anderson EL. Annual environmental information exchange. Sponsored by the American Air Pollution Control Association, the U.S. Environmental Protection Agency, and the Society for Mechanical Engineers. Research Triangle Park, NC, December 1985.

Anderson EL. Risk assessment methods for uncontrolled releases of chemicals. Conference on risk analysis in developing countries, World Health Organization and National Science Foundation, Hyderabad, India, October 1985.

Anderson EL. Presented President's address on a decade in risk assessment and a paper on risk assessment as it is practiced at the federal and state level, with emphasis on areas for improvement, October 1985.

Anderson EL. Annual Meeting on Improving Risk Management, Society for Risk Analysis, Alexandria, VA, 1985.

Anderson EL. Lecture series on carcinogen risk assessment and risk management. Harvard School of Public Health's Continuing Education Program, Boston, MA, September, 1985.

Anderson EL. Symposium on risk assessment. Chemical Manufacturers Association, Washington, DC, September 1985.

Anderson EL. Risk assessment methods applied to issues in developing countries: environmental health risk assessment. Pan American Health Organization, Mexico City, Mexico, August 1985.

Anderson EL. The use of risk assessment at the state level. National Governors Association Council on Environmental Health, Washington, DC, July 1985.

Anderson EL. Assessing risk associated with chemicals. The Toxicology Forum, Aspen, CO, July 1985.

Anderson EL. Research needed to support risk assessment of exposures at superfund and hazardous waste sites. The Centers for Disease Control, Atlanta, GA, July 1985.

Anderson EL. The use of risk assessment in the federal government. Distinguished Scholars Program, American Association for the Advancement of Science, Washington, DC, June 1985.

Anderson EL. Lecture series on risk assessment and public health. 3rd Annual Summer Institute, Graduate School of Public Health, New York University, New York, NY, June 1985.

Anderson EL. Symposium on health and environmental risk assessment. Brooks Institute, Washington, DC, June 1985.

Anderson EL. Annual Summer Symposium on the Evaluation of Health Data for Toxic Chemicals. Mid-Year Meeting on Risk assessment, Chemical Specialties Manufacturers Association, Chicago, IL, May 1985.

Anderson EL. Symposium on risk assessment. American Industrial Health Council, Washington, DC, May 1985.

Anderson EL. Conference on risk assessment. The American Medical Association, Atlanta, GA, May 1985.

Anderson EL. Risk assessment methods. Mid-Year Briefing Program of the American Industrial Health Council, Washington, DC, May 1985.

Anderson EL. Risk assessment of regulatory implications. 14th Annual Conference on the Environment, Risk Assessment and the Law. Airlie House Conference, The American Bar Association, Warrenton, VA, May 1985.

Anderson EL. Risk assessment of agricultural chemicals. Public Health and Toxicology Committee Meeting, National Agricultural Chemicals Association, Washington, DC, May 1985.

Anderson EL. Risk assessment of potential effects associated with release of genetically altered mechanisms. Banbury Conference on Genetically Altered Viruses and the Environment, sponsored by EPA, Banbury Center, Cold Spring Harbor Laboratory, Long Island, NY, April 1985.

Anderson EL. Executive workshop on risk analysis in the federal regulatory process. American Society of Mechanical Engineers, Washington, DC, April 1985.

Anderson EL. Risk analysis: Invited lecture series on health risk assessment. Stanford University, Palo Alto, Stanford, CA, April 1985.

Anderson EL. Prevention 85: Assessing risks in a hazardous world, Atlanta, GA, March 1985.

Anderson EL. Symposium on acceptable risks/society's gamble. Public television series. Rutgers University, New Brunswick, NJ, March 1985.

Anderson EL. Toxics management in the Chesapeake Bay. Seminar sponsored by the Virginia Institute of Marine Science and the Virginia Water Pollution Control Association, Gloucester Point, VA, March, 1985. Member, Board on Toxicology and Environmental Health Hazards. National Research Council/National Academy of Sciences, Washington, DC, March 1985.

Anderson EL. Symposium on new issues in regulatory toxicology and health risk assessment. Society of Toxicology, San Diego, CA, March 1985.

Anderson EL. Semi-annual meeting of committee on toxicology. National Research Council/National Academy of Sciences, Washington, DC, March 1985.

Anderson EL. Chemical product risk reduction. Seminar sponsored by Executive Enterprises, Washington, DC, February 1985.

Anderson EL. Seminar on understanding environmental risks. Department of Environmental Toxicology and Public Service Research and Dissemination, University of California, Davis, CA, January 1985.

Anderson EL. National symposium on chemical emergencies. Pan American Health Organization, Sao Paulo, Brazil, December 1984.

Anderson EL. U.S.-Japanese workshop on risk assessment/risk management. Vanderbilt University and Tsukuba University under the U.S.-Japanese Cooperative Program, Tsukuba Science City, Japan, October 1984.

Anderson EL. Lectured on risk assessment. Institute of Public Health, Tokyo, Japan, November 1984.

Anderson EL. Lectured on risk assessment. Mie University School of Medicine, Tsu City, Mie-Ken, Japan, November 1984.

Anderson EL. Risk assessment/risk management seminar. Sponsored by the Institute of Occupational and Environmental Health, Japan School of Medicine, Kitakyushu, Japan, November 1984.

Anderson EL. Conducted risk assessment/risk management Seminar. Sponsored by the Republic of Korea Environmental Agency, Seoul, Korea, November 1984.

Anderson EL. Lectured on risk assessment. Institute of Environmental Research, Yonsei University School of Medicine, Seoul, Korea, November 1984.

Anderson EL. Lectured on risk assessment. Japanese Environmental Agency, Tokyo, Japan, November 1984.

Anderson EL. The future of formaldehyde. Seminar sponsored by the Consumer Federation of America, Washington, DC, November 1984.

Anderson EL. Symposium on risk assessment. EPA, Cincinnati, OH, October 1984.

Anderson EL. Seminar on risk analysis on environmental health with emphasis on carcinogenesis. Harvard School of Public Health, Boston, MA, September 1984.

Anderson EL. Conference on risk analysis. Advisory Council Seminar, Electric Power Research Institute, Monterey, CA, August 1984.

Anderson EL. Symposium on chemical emergency preparedness. Pan American Center for Human Ecology and Health, Pan American Health Organization, Metepec, Mexico, July 1984.

Anderson EL. Summer Institute in Risk Management. New York University, New York, NY, June 1984.

Anderson EL. Risk management and environmental decisions. Federal Water Quality Association, Washington, DC, May 1984.

Anderson EL. Lecture on risk assessment. Wharton School of Business, University of Pennsylvania, Philadelphia, PA, April 1984.

Anderson EL. Executive session on the environment, regulation, and risk. Harvard University, Boston, MA, March 1984.

Anderson EL. 11th Annual Energy Conference on Risk, Media, and the Public. WATTec, Knoxville, TN, February 1984.

Anderson EL. Principles in evaluating carcinogenesis data for environmental pollutants. Food Safety/Risk Assessment Committee, International Life Sciences Institute, Washington, DC, February 16, 1983.

Anderson EL. Carcinogenesis from the environment to the gene oncogenesis. Cold Spring Harbor Laboratory, Long Island, NY, November 19-21, 1982.

Anderson EL. Risk assessment and public policy. Symposium on Health Risk Assessment. Sponsored by

the National Association of Science Writers and Women in Government, National Academy of Sciences, Washington, DC, November 18, 1982.

Anderson EL. The evolutionary process of carcinogen risk assessment in EPA: Future trends. Conference on the Reagan/Gorsuch EPA — Its Impact on Industry. Sponsored by the Center for Energy and Environmental Management and "Inside EPA," Washington, DC, November 8-9, 1982.

Anderson EL. Risk assessment for environmental toxicants. Science and Technology Conference for Government Executives, The Brooks Institute, Williamsburg, VA, November 5, 1982.

Anderson EL. Risk for progeny associated with prenatal exposures to chemicals, editor. World Health Organization meeting, Geneva, Switzerland, October 1982.

Anderson EL. Symposium on risk assessment. Speaker and session chairman, Annual Meeting of the American Chemical Society, Kansas City, KS.

Anderson EL. The Scientific Group on Methodology for the Safety Evaluation of Chemicals Within the Framework of the International Program for Chemical Safety. Speaker and workshop participant, World Health Organization, Leningrad, USSR, July 12-16, 1982.

Anderson EL. Practical application in risk assessment. American Mining Congress Risk Assessment Seminar, University of California, Berkeley, CA, June 29, 1982.

Anderson EL. Low dose high consequence risk assessment. Panel Member at annual Meeting of the Society for Risk Analysis, June 18, 1982.

Anderson EL. Practical applications of risk analysis: The Environmental Protection Agency experience. The Food and Drug Law Institute, Washington, DC, June 14, 1982.

Anderson EL. Workshop participant to advise the Georgetown University Medical Center on issues relevant to setting up their Health Policy Institute, Belmont, MD, May 2, 1982.

Anderson EL. Issues and concepts of risk assessment. Session chairman, Annual meeting of the Biostatistics Society, Texas A&M University, San Antonio, TX, March 14-17, 1982.

Anderson EL. Participant and chapter editor for risk assessment for World Health Organization Workshop on methods for the integrated evaluation of risks for progeny associated with prenatal exposure to chemicals, Prague, Czechoslovakia, November 30-December 6, 1981.

Anderson EL. The role of risk assessment in the regulation of carcinogens. University Center for International Studies, University of Pittsburgh, PA, November 3-4, 1981.

Anderson EL. EPA risk assessment for carcinogens. Assembly of Life Sciences Committee on the Institutional Means for Assessment of Risks to Public Health, Washington, DC, October 13, 1981.

Anderson EL. Workshop on low-dose extrapolation, biological and statistical implication of the ED01 study and related database, Mt. Sterling, OH, September 13-16, 1981.

Anderson EL. Strengths and weaknesses of current risk assessment methods. Conference on Risk Assessment in Regulating Health and Safety, The Brooks Institute, Washington, DC, May 1, 1981.

Anderson EL. Risk assessment as a basis for regulations. University of North Carolina, Chapel Hill, NC, April 8, 1981.

Anderson EL. Risk assessment. Seminar for Presidential Management Program. U.S. Environmental Protection Agency, February 24, 1981.

Anderson EL. The use of scientific data in evaluating environmental carcinogens: The need for balance. Symposium on Genotoxic Effects of Airborne Agents, Brookhaven National Laboratory, Upton, NY, February 11, 1981.

Anderson EL. Symposium on health risk analysis, Session chairman. Oak Ridge National Laboratory Life Sciences Series, Gatlinburg, TN, October 27-30, 1980.

Anderson EL. Risk assessment: A look to the future. Gordon Conference, Plymouth, NH, July 1980.

Anderson EL. Quantitative risk criteria and goals for public health protection. Nuclear Regulatory Commission, Advisory Committee on Reactor Safeguards, Washington, DC, December 1979.

Anderson EL. The role of risk assessment in the regulation of carcinogens. NATO Advanced Research Institute on in vitro Toxicity Testing of Environmental Agents, Monte Carlo, Monaco, September 1979.

Anderson EL. In addition, from 1979 to 1981, invited lecturer on cancer and risk assessment policies at a number of universities, including: University of Cincinnati, January 5, 1979; Hood College, November 1979; University of Wisconsin, November 1979; Williams College, February 1981; University of North Carolina, February 1981; and North Carolina State University, October 1981.